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09/826,878	04/06/2001	Koichi Sato	684.3176	3335

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EXAMINER	
RUDE, TIMOTHY L	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 10/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/826,878	Applicant(s) SATO, KOICHI	
	Examin r Timothy L Rude	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claims

1. Claims 1-11 are cancelled. Claims 13-15 and 17-26 are amended.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 12-13, 18, 20, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawata USPAT 6,061,113.

As to claims 12 and 13, Kawata discloses a liquid crystal composition comprising: a discotic liquid crystal and a rod-shaped nematic liquid crystal disposed in mutually separate phases, wherein the discotic liquid crystal is in a nematic discotic phase (col. 11, line 65 through col. 12, line 22).

As to claim 18, Kawata discloses a liquid crystal device according to Claim 16, wherein said discotic liquid crystal is placed in an alignment that is formed along a

single direction on a plane (Applicant's edge-on and uniaxial alignment state) (col. 12, lines 45-51).

As to claim 20, Kawata discloses a liquid crystal device according to Claim 16, wherein the liquid crystal layer is placed in an alignment state where the discotic liquid crystal is formed along a single direction on a plane which, according to Applicant's enabling disclosure (Specification, page 40, lines 5-15) would result in the rod-shaped liquid crystal are aligned to have alignment directors which are directed in an identical direction.

As to claim 22, Kawata discloses a liquid crystal device according to Claim 16, wherein the discotic liquid crystal has a polymerizable group (col. 9, lines 1-15) (Applicant's polymeric liquid crystal).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 16, 17, 19, 23, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata.

As to claims 19, and 27, Kawata discloses the LC device according to claim 16.

Kawata does not explicitly disclose mere use of voltage application means, active elements for transmitting a voltage signal, in-plane switching, and a drive means for driving the liquid crystal device.

Mere use of voltage application means, active elements for transmitting a voltage signal, in-plane switching, and a drive means for driving the liquid crystal device are considered obvious expedients, well know to those of ordinary skill in the art of liquid crystals.

Kawata is evidence that ordinary workers in the art of liquid crystals would find the reason, suggestion, or motivation to add voltage application means, active elements for transmitting a voltage signal, in-plane switching, and a drive means for driving the liquid crystal device to facilitate satisfactory display function.

Therefore, it would have been obvious to one having ordinary skill in the art of liquid crystals at the time the invention was made to modify the LCD of Kawata with voltage application means, active elements for transmitting a voltage signal, in-plane switching, and a drive means for driving the liquid crystal device to facilitate satisfactory display function.

As to claims 16 and 17, Kawata discloses a liquid crystal device, including a liquid crystal optically anisotropic layer comprising a discotic liquid crystal, (col. 18, lines

47-56), wherein the liquid crystal layer is disposed on at least one substrate subjected to an aligning treatment.

Kawata does not explicitly claim an optically anisotropic layer comprised of discotic liquid crystal and a rod-shaped liquid crystal disposed in mutually separate phases, wherein the discotic liquid crystal is in a nematic discotic phase.

Kawata teaches the preferred method of forming his invention of an optically anisotropic layer is comprised of discotic liquid crystal and a rod-shaped liquid crystal (col. 11, line 65 through col. 12, line 58) disposed in mutually separate phases, wherein the discotic liquid crystal is in a nematic discotic phase (col. 12, lines 20-22) to allow adjustment of the liquid crystal phase, alignment temperature, or to accelerate or inhibit the polymerization reaction (col. 11, line 67 through col. 12, line 2).

Kawata is evidence that ordinary workers in the art of liquid crystals would find the reason, suggestion, or motivation to use a discotic liquid crystal and a rod-shaped liquid crystal disposed in mutually separate phases, wherein the discotic liquid crystal is in a nematic discotic phase to allow adjustment of the liquid crystal phase, alignment temperature, or to accelerate or inhibit the polymerization reaction.

Therefore, it would have been obvious to one having ordinary skill in the art of liquid crystals at the time the invention was made to modify the LCD of Kawata with a discotic liquid crystal and a rod-shaped liquid crystal disposed in mutually separate phases, wherein the discotic liquid crystal is in a nematic discotic phase to allow adjustment of the liquid crystal phase, alignment temperature, or to accelerate or inhibit the polymerization reaction.

As to claims 23 and 25, Kawata discloses the LC device according to claims 16 and 22.

Kawata does not explicitly disclose mere selection of a reflection-type device emitting light reflected therefrom as a display signal and further including a reflection plate behind the device.

Mere selection of a reflection-type device emitting light reflected therefrom as a display signal and further including a reflection plate behind the device are considered obvious species variations of the claimed invention, not patentably distinct. If Applicant does not agree, a restriction may be appropriate.

Kawata is evidence that ordinary workers in the art of liquid crystals would find the reason, suggestion, or motivation to add a reflection-type device emitting light reflected therefrom as a display signal and further including a reflection plate behind the device to facilitate a reflective display with satisfactory display performance.

Therefore, it would have been obvious to one having ordinary skill in the art of liquid crystals at the time the invention was made to modify the LCD of Kawata with a reflection-type device emitting light reflected therefrom as a display signal and further including a reflection plate behind the device to facilitate a reflective display with satisfactory display performance.

Response to Arguments

Applicant's arguments filed on 17 July 2003 have been fully considered but they are not persuasive.

Applicant's ONLY arguments are as follows:

(1) Regarding claims 12-13, 18, 20, and 22, Kawata does not disclose a two-phase-separated liquid crystal.

(2) The homogenous liquid state of Kawata does not suggest the two-phase-separated state of the claimed invention.

Examiner's responses to Applicant's ONLY arguments are as follows:

(1) It is respectfully pointed out that Applicant merely claims a discotic liquid crystal that is in nematic discotic phase. Kawata discloses that per rejections above. See also Kawata's claim 5 (col. 17, lines 65-67).

(2) It is respectfully pointed out that Kawata does not claim to form a homogeneous liquid state; the word homogeneous does not appear anywhere in Kawata. Kawata discloses the combination of rod-like liquid crystal material and discotic liquid crystal material to form a discotic liquid crystal that is in nematic discotic phase as claimed. Please note that examiner considers Kawata to genuinely anticipate Applicant's claimed invention as claimed by claims 12-13, 18, 20, and 22.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy L Rude whose telephone number is (703) 305-0418. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.

Timothy L Rude
Examiner
Art Unit 2871

TLR
September 25, 2003

ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800